



# Mobile Environmental Testing Laboratory

Environmental Testing Vehicle

Haier Biomedical



Environmental testing in remote mountainous areas, pastoral areas, mines, villages and towns, etc., to improve the coverage and convenience of environmental testing.



Areas with outbreaks of disease and infectious diseases: emergency testing, rapid response, deep penetration into the infected area, and targeted and efficient testing of the environment in the infected area are required.



Environmental testing in industrial areas and school zones in cities, environmental research in scientific institutions, etc., mobile and flexible, timely testing.



▲ Environmental testing in mountainous areas



▲ Pastoral environmental testing



▲ Environmental testing in infected areas



▲ Scientific research institution experiments



▲ Industrial zone environmental testing



▲ Mining site environmental testing

## Environmental Testing Vehicle

The mobile environmental testing laboratory is an effective tool for improving the efficiency of regional environmental monitoring. By sampling air, soil and water and conducting on-site testing at the detection point, the coverage and timeliness of environmental monitoring can be improved to ensure regional environmental safety and personnel safety.





## Mobile Environmental Testing Laboratory

### Rational Layout Design

With a wealth of experience in specialised vehicle design, work efficiency and experience is enhanced through effective space layout.

### Multiple power guarantees

Various power supply methods such as city power supply, on-board battery and engine can be used to ensure the stability of the vehicle in a variety of scenarios.

### Outstanding vehicle platform

Selection of excellent performance of the basic vehicle platform, the original design and production, the use of electrophoresis process of the entire vehicle, improve the corrosion resistance of the external coating of the entire vehicle, to ensure the long-term durability of the mobile laboratory.

### Professional laboratory equipment

Equipped with a variety of experimental equipment required for air, soil, water quality and other testing to ensure efficient and accurate experiments.

### P2 laboratory

The laboratory is equipped with a negative pressure fresh air filtration system and in-built purification and disinfection systems (e.g. UV lamps, air sterilisers, etc.), which can ensure the safety of the laboratory environment.



## Scrubber's area

Air sanitizers, hand-washing sinks, water purification tanks, sewage tanks

## Labs

The whole vehicle is equipped with a fresh air system to meet P2 laboratory requirements

## Equipment room

25kw Silent Generator, Whole Vehicle Power Supply

## Inlet buffer

Change lab coats in this area and connect the test area and equipment room. Configuration of fire extinguishers



## Operating area

Experimental equipment: balance, water bath, Bunsen burner, 3 workstations reserved

## Inspection area

Testing equipment: laminar flow cabinets, safety cabinets, incubators

## Cabs

Number of occupants 3

## boiler

Used in the laboratory for distillation, drying, concentration, and warm impregnation of chemicals or biological products, can also be used for constant temperature heating and other temperature tests.



Temperature fluctuation  $\pm 0.5^{\circ}\text{C}$   
Temperature range RT+5 -99 $^{\circ}\text{C}$   
Temperature homogeneity  $\pm 1^{\circ}\text{C}$   
Voltage 110V 60Hz /220V 50Hz  
Working size(mm) 300x160x120  
Dimension(mm) 470x230x240  
Weight 5kg

## biological safety cabinet

Professional local air purification devices for pharmaceutical, healthcare, university research laboratories, optoelectronic / microelectronic production and other fields.



Flow type: Vertical  
Voltage/Frequency (V/Hz) : 115/60  
Power (W) : 1200  
Vibration Amplitude (UM) : 2  
Exhaust air filtration efficiency : H13  
HEPA,99.99%@0.3um  
Average speed (M/S) : 0.2-0.4  
Lighting intensity (Lux) :  $\geq 300$

## Laboratory explosion-proof refrigerator

It can be used for low-temperature sealed storage of flammable, explosive, easy to evaporate, easy to corrode reagents, biological products, materials and so on. Suitable for laboratories in universities and research institutes.



Type:Upright  
Climate Class:N, ST  
Cooling Type:Forced Air Cooling  
Defrost Mode:Auto  
Refrigerant:R600a  
Noise ((dB(A)):40  
Temperature Range ( $^{\circ}\text{C}$ ):3~16 $^{\circ}\text{C}$   
Adjustable

## Gas Chromatograph

Analyze the sample composition, the degree of contamination of the information; widely used in small molecular weight complex components of the quantitative analysis of substances.



## spectrophotometer

In addition to the nucleic acid concentration, the spectrophotometer simultaneously displays several very important ratios indicating the purity of the sample, the



## Flue Gas Analyzer

The instrument can be adapted to a wide range of flue gas analyses and precise emission measurements, and can be adapted to different conditions. Especially for high humidity, low sulfur and high CO



**Overview of air testing systems:** Air monitoring refers to the sampling and measurement of pollutants present in the air at a fixed point, continuously or at regular intervals. In order to monitor the air, the results are sent for periodic retrieval, analyzed and relevant data are obtained.



## Total Reflectance X-ray Fluorescence Analyzer

Used for elemental analysis of solid and petrochemical samples with detection limits below the PPb order of magnitude, TXRF extends the application range of XRF to analyze ultra-trace elements in liquid samples, suspensions, and membranes.



## turbidimeter

For fast and accurate on-site analysis. It is measured to EN ISO 7027 and provides scattered light at an angle of 90°. The measuring range from 0.01 to 1100 TE/F = NTU = FNU, with a detection limit of 0.01 NTU, allows the use of the device in different areas, from drinking water to waste water.



## Portable XRF Analyzer

The XRF Elemental Analyzer uses X-rays to irradiate the sample, which excites the atoms in the sample and produces characteristic X-ray fluorescence. This function is used to determine the composition of soil



**Overview of water quality and soil testing system:** through fluorescence analyzer, XRF analyzer, electronic balance, conductivity meter, PH meter, UV spectrophotometer and so on. Through these equipments, the laboratory can determine the dissolved oxygen, acidity and alkalinity, conductivity, organic content and other indicators in water samples. At the same time, the laboratory is also equipped with microbiological testing equipment, bacteria, viruses and other microorganisms can be tested and analyzed.



The Ministry of Environment and Sustainable Development of Côte d'Ivoire ordered a mobile environmental testing vehicle from Haier Biomedical for environmental testing in Abidjan.

In 2006, Abidjan, the economic capital and largest port city of the Republic of Côte d'Ivoire, known as the "Little Paris of West Africa" and the "Little Manhattan", was the scene of the illegal dumping of hundreds of tons of toxic industrial waste by a cargo ship. According to test results provided by French researchers at the time, hydrogen sulfide and hydrocarbons, which are harmful to human health and the environment, were found in the composition of the waste. These substances, which are soluble in water and oil, are known as "nerve agents" and have led to respiratory difficulties, nausea and vomiting, chest pains and diarrhoea among the local population. The dumping triggered a health crisis in Côte d'Ivoire with long-term implications for the local population and environmental security.

The customized mobile laboratory for environmental testing takes the testing vehicle as a carrier and is equipped with laboratory-grade analytical instruments, such as gas chromatograph, fluorescence spectrometer, spectrophotometer, air quality monitoring station, XRF analyzer, biological safety cabinet and incubator, etc., to test the environmental quality and degree of contamination through the collection of soil, water and air samples. The mobile laboratory also integrates an intelligent information management system to fully meet the needs of emergency testing, and together with the various environmental monitoring stations to form a more complete integrated environmental monitoring network system for water, air and land, truly realizing emergency testing, rapid response and real-time reporting.

As a new infrastructure for biosafety digital healthcare, Haier Biomedical demonstrates the responsibility and commitment of a national brand to create a full-process, full-scene, full-coverage environmental testing program to help government administrations in various countries to comprehensively improve the power of rapid detection, emergency response, safety and protection, and to build a common defense of environmental safety, guarding the world's public health and safety, and making life better.



Exterior of Mobile Environmental Inspection Vehicle



Interior view of the mobile environmental inspection vehicle